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Four new North American birches

N. L. BRITTON

***Betula Utahensis* sp. nov.**

Young twigs densely resinous-glandular, greenish-brown, becoming bright brown and shining. Young leaves hairy on both sides, the older ones glabrous, except for a few hairs on the veins beneath, ovate to ovate-orbicular, sharply dentate with abruptly tipped teeth, acute, 5 cm. long or less and sometimes as wide as long, narrowed or truncate at the base, the upper surface dull green; staminate catkins 5 cm. long or longer; strobiles cylindric, stout, 3-4 cm. long, more than 1 cm. thick, borne on stalks about 6 mm. long, their scales nearly as wide as long, finely pubescent and ciliate, the lateral lobes obliquely-ovate, widely spreading and about as long as the triangular-lanceolate, pointed, middle one; nut obovate, 2 mm. long, narrower than its wings.

Type specimens collected in City Creek Cañon, Salt Lake City, by S. G. Stokes.

This appears to differ markedly from *Betula fontinalis* by its very thick strobiles and the widely spreading lateral lobes of their scales.

***Betula Piperi* sp. nov.**

This tree is described by Professor Piper as attaining a height of 15 m. and being slender and graceful, with drooping branches, and dark bronze bark which does not peel off readily. The young twigs are very slender, green and glandular; leaves ovate, thin, sharply irregularly serrate, acute, 5 cm. long or less, broadly to narrowly cuneate at the base, pubescent when young, glabrous or nearly so and shining on the upper surface when mature; petioles 1-2 cm. long; stipules ovate, about 5 mm. long; staminate catkins 6-8 cm. long; strobiles narrowly-cylindric, 3-5 cm. long, about 8 mm. thick, stalked, their scales about 6 mm. long, rather longer than wide, 3-lobed at the top, puberulent and ciliate, the lateral lobes widely spreading and obtuse, about as long as the narrower, acute, middle one, the stalk-like base of the scale cuneate; nut 1.5-2 mm. long, obovate to oblong, wider than its wing.

Type collected by Professor C. V. Piper, July 9, 1901, nine miles south of Pullman, Washington.

***Betula Sandbergi* sp. nov.**

Young twigs loosely pubescent, green, becoming brown. Leaves rhombic-ovate, acute, rather evenly serrate, dark green and strongly netted-veined on the upper side, light green, very glandular and slightly pubescent on the veins beneath, 6 cm. long or less, cuneate at the base; petioles glabrous, 1.5 cm. long or less; staminate catkins 6 cm. long or more; strobiles slender-stalked, cylindric, 2–2.5 cm. long, about 6 mm. thick, their scales about 4 mm. long, pubescent, 3-lobed at the apex, the middle lobe a little longer than the blunt ascending lateral ones, all the lobes blunt; nut oval to obovate, 1.5 mm. long, rather narrower than its wings.

Type collected by J. H. Sandberg in swamps, Hennepin County, Minnesota, June, 1890, and distributed as *Betula nigra*.

***Betula Alleghaniensis* sp. nov.**

Resembling *B. lenta* and *B. lutea*, attaining about the same size as the former but smaller than the latter. Bark either close and furrowed, or peeling off in thin yellowish gray layers; young twigs long-pubescent, becoming brown and shiny; leaves ovate to ovate-oblong, usually gradually acuminate, 12 cm. long or less, rather coarsely and sharply serrate, mostly cordate at the base but sometimes rounded, dark green and glabrous above, yellow-green and more or less pubescent on the veins beneath when mature; petioles pubescent, about 1 cm. long; staminate catkins 6 cm. long or more, their scales broadly ovate and obtusish; strobiles oblong-cylindric, 2–3 cm. long, very short-stalked or sessile, their scales 4–6 mm. long, pubescent, nearly or quite as wide as long, 3-lobed above the middle, the wedge-shaped part below the lobes short, the margins ciliate; nut narrowly obovate to oblong, 2–3 mm. long, mostly narrower than its wings.

Type specimen distributed by the Biltmore Herbarium, no. 1619, collected on the upper slopes of Mt. Pisgah, western North Carolina, September 21, 1897.

This tree has been confused with both the cherry birch and the yellow birch. Its range as known to me is from Massachusetts to Quebec and northern Michigan, south to southern New York, Pennsylvania, and in the mountains to Georgia.

NEW YORK BOTANICAL GARDEN.